

c.) Amendments to the Claims

Status Identifiers of the Claims

1. (Cancelled)
2. (Cancelled)
3. (Cancelled)
4. (Cancelled)
5. (Cancelled)
6. (Withdrawn-currently amended)
7. (Withdrawn-currently amended)
8. (Withdrawn)
9. (Withdrawn)
10. (Withdrawn-currently amended)
11. (Withdrawn)
12. (Withdrawn)
13. (Withdrawn)
14. (Withdrawn)
15. (Withdrawn)
16. (New)
17. (New)
18. (New)
19. (New)
20. (New)

Listing of Claims

Claim 1-5 (cancelled)

Claim 6 (withdrawn-currently amended): A method of preparing a *de novo* synthesized plasmid combined from at least two DNA fragments comprising:

- (a) preparing a linear replication origin DNA fragment;

- (b) preparing a linear selection marker gene DNA fragment;
- (c) combining the DNA fragments prepared from steps (a) and (b) to form a circular ~~de novo~~ synthesized plasmid without referring entire structure of an existing plasmid;
- (d) introducing the plasmid made from step (c) into a host cell; and
- (e) selecting the plasmid with appropriate replication origin and selection marker from transformed host cells.

Claim 7 (withdrawn-currently amended): The method according to claim 6, wherein any DNA fragment alone used for combining the ~~de novo~~ synthesized plasmid cannot confer both autonomous DNA replication and selection to a plasmid.

Claim 8 (withdrawn): The method according to claim 6, wherein the linear DNA fragments of steps (a) and (b) are prepared from polymerase chain reaction.

Claim 9 (withdrawn): The method according to claim 6, wherein the linear DNA fragments of steps (a) and (b) are prepared from restriction digestion.

Claim 10 (withdrawn-currently amended): A method of using a ~~de novo~~ synthesized plasmid comprising:

- (a) Linearizing the ~~de novo~~ synthesized plasmid;
- (b) inserting one or more functional DNA fragments to the linearized plasmid to make other plasmids;
- (c) introducing the plasmids made from step (b) into host cells;

(d) selecting the plasmids and host cells with desired properties; and

(e) using the plasmids and host cells for biomedical applications.

Claim 11 (withdrawn): The method according to claim 10, wherein linearizing the plasmid was achieved by restriction digestion.

Claim 12 (withdrawn): The method according to claim 10, wherein linearizing the plasmid was achieved by PCR.

Claim 13 (withdrawn): The method according to claim 10, wherein the functional DNA fragments encode a promoter, a regulatory sequence, a ribosome binding site, restriction sites, a terminator, a polypeptide, a replication origin, and a selection marker gene.

Claim 14 (withdrawn): The method according to claim 10, wherein the desired properties are plasmid replication, selection, and the properties added by functional DNA fragments inserted from step (b).

Claim 15 (withdrawn): The method according to claim 10, wherein the biomedical applications are DNA cloning, DNA amplification, gene expression, gene therapy, and DNA immunization.

Claim 16 (New): A synthesized plasmid comprising at least a replication origin and a selection marker gene wherein;

(a) the said plasmid is synthesized only with sequences of known functions;

(b) the said plasmid is synthesized only with sequences of desirable functions;

- (c) the said plasmid is synthesized without using a whole existing plasmid as starting material; and
- (d) the said plasmid is synthesized without referring the entire structure of an existing plasmid.

Claim 17 (new): An isolated DNA fragment comprising the plasmid according to claim 16.

Claim 18 (new): A vector comprising the plasmid according to claim 16.

Claim 19 (new): A bacterial cell strain comprising the vector according to claim 18.

Claim 20 (new): A eukaryotic cell line comprising the vector according to claim 18.